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DIGITAL FINANCE FOR ALL: POWERING INCLUSIVE GROWTH IN EMERGING ECONOMIES

SEPTEMBER 2016

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25

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DIGITAL FINANCE FOR ALL: POWERING INCLUSIVE GROWTH IN EMERGING ECONOMIES

SEPTEMBER 2016

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IN BRIEF

DIGITAL FINANCE FOR ALL: POWERING INCLUSIVE GROWTH IN EMERGING ECONOMIES

Two billion individuals and 200 million businesses in emerging economies today lack access to savings and credit, and even those with access can pay dearly for a limited range of products. Rapidly spreading digital technologies now offer an opportunity to provide financial services at much lower cost, and therefore profitably, boosting financial inclusion and enabling large productivity gains across the economy. While the benefits of digital finance—financial services delivered via mobile phones, the internet or cards—have been widely noted, in this report we seek to quantify just how large the economic impact could be.

- Digital finance has the potential to provide access to financial services for 1.6 billion people in emerging economies, more than half of them women. It could increase the volume of loans extended to individuals and businesses by $2.1 trillion and allow governments to save $110 billion per year by reducing leakage in spending and tax revenue. Financial-services providers would benefit too, saving $400 billion annually in direct costs while sustainably increasing their balance sheets by as much as $4.2 trillion.
- Overall, we calculate that widespread use of digital finance could boost annual GDP of all emerging economies by $3.7 trillion by 2025, a 6 percent increase versus a business-as-usual scenario. Nearly two-thirds of the increase would come from raised productivity of financial and non-financial businesses and governments as a result of digital payments. One-third would be from the additional investment that broader financial inclusion of people and micro, small, and medium-sized businesses would bring. The small remainder would come from time savings by individuals enabling more hours of work. This additional GDP could lead to the creation of up to 95 million jobs across all sectors.
- The potential economic impact varies significantly depending on a country's starting position. We conducted field research in seven countries that span geographies and income levels: Brazil, China, Ethiopia, India, Mexico, Nigeria, and Pakistan. Lower-income countries such as Ethiopia, India, and Nigeria have the largest potential, with the opportunity to add 10 to 12 percent to their GDP, given low levels of financial inclusion and digital payments today. In comparison, middle-income countries such as China and Brazil could add 4 to 5 percent to GDP—still a substantial boost.
- The rapid spread of mobile phones is the game changer that makes this opportunity possible. In 2014, nearly 80 percent of adults in emerging economies had a mobile phone, while only 55 percent had financial accounts—and mobile phone penetration is growing quickly. Mobile payments can lower the cost of providing financial services by 80 to 90 percent, enabling providers to serve lower-income customers profitably. The data trail these technologies leave can enable lenders to assess the creditworthiness of borrowers, and can help businesses better manage their finances.
- Businesses and government leaders will need to make a concerted effort to secure these potential benefits. Three building blocks are required: widespread mobile and digital infrastructure, a dynamic business environment for financial services, and digital finance products that meet the needs of individuals and small businesses in ways that are superior to the informal financial tools they use today.

Broadening access to finance through digital means can unlock productivity and investment, reduce poverty, empower women, and help build stronger institutions with less corruption—all while providing a profitable, sustainable business opportunity for financial service providers. The benefits for individuals, businesses, and governments can transform the economic prospects of emerging economies.

THE POWER OF DIGITAL FINANCE

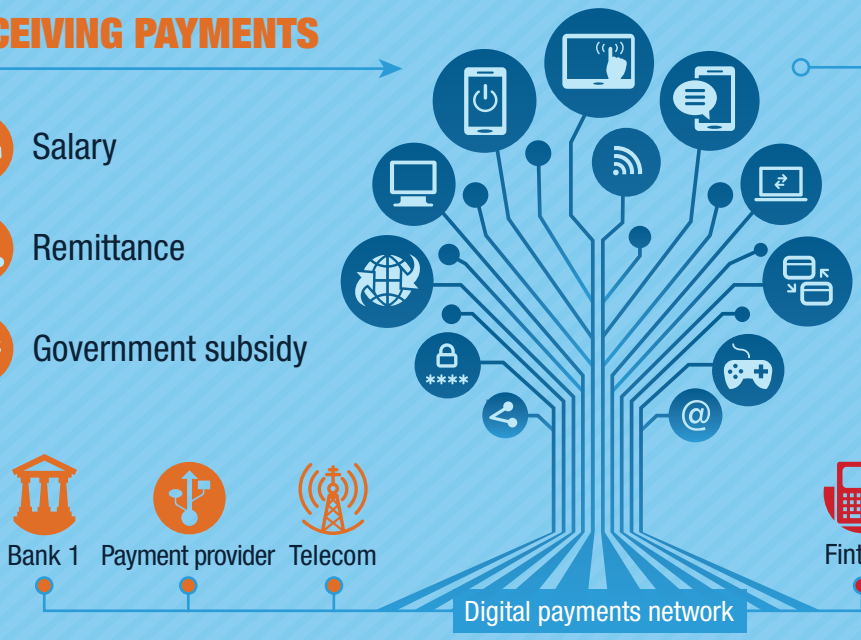
TRANSFORMING HOW PEOPLE TRANSACT

RECEIVING PAYMENTS

- Salary
- Remittance
- Government subsidy

MAKING PAYMENTS

- Utility bill
- School fee
- Convenience store



THE POTENTIAL ECONOMIC IMPACT

1.6 BILLION
newly included individuals

$4.2 TRILLION
in new deposits

$3.7 TRILLION
(6%) GDP boost by 2025

95 MILLION
New jobs

$110 BILLION
annual reduction in government leakage

$2.1 TRILLION
in new credit

THREE REQUIRED BUILDING BLOCKS

Widespread digital infrastructure

Widespread connectivity, robust digital payments infrastructure, and well-disseminated personal identification system

Dynamic financial services market

Risk-proportionate regulation promoting stable financial system and open markets fostering innovation

Products people prefer to existing alternatives

New digital products offering true advantage in cost and utility for people to use them

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EXECUTIVE SUMMARY

Most people and small businesses in emerging economies today do not fully participate in the formal financial system.[1] They transact exclusively in cash, have no safe way to save or invest money, and do not have access to credit beyond informal lenders and personal networks. Even those with financial accounts may have only limited product choice and face high fees. As a result, a significant amount of wealth is stored outside the financial system and credit is scarce and expensive. This prevents individuals from engaging in economic activities that could transform their lives. Economic growth suffers.

Digital finance offers a transformational solution, and one that could be implemented rapidly and without the need for major investment of costly additional infrastructure (see Box E1, "What is digital finance?"). Banks, telecoms companies, and other providers are already using mobile phones and other readily available technologies to offer basic financial services to customers. Using digital channels rather than brick-and-mortar branches dramatically reduces costs for providers and increases convenience for users, opening access to finance for people at all income levels and in far-flung rural areas. For businesses, financial service providers, and governments, digital payments and digital financial services can erase huge inefficiencies and unlock significant productivity gains.

In this report, we take a comprehensive approach to quantifying the economic and social impact of digital finance in emerging economies. We use McKinsey's proprietary general equilibrium macroeconomic model and detailed inputs from field research in seven emerging economies that cover a range of geographies and income levels: Brazil, China, Ethiopia, India, Mexico, Nigeria, and Pakistan. We find that widespread adoption and use of digital finance could increase the GDP of all emerging economies by 6 percent, or $3.7 trillion, by 2025.

Stakeholders across these countries would benefit. Some 1.6 billion unbanked people could gain access to formal financial services; of this total, more than half would be women. An additional $2.1 trillion of loans to individuals and small businesses could be made sustainably, as providers expand their deposit bases and have a newfound ability to assess credit risk for a wider pool of borrowers. Governments could gain $110 billion per year from reduced leakage in public spending and tax collection—money that could be devoted to other priorities. The resulting increase in aggregate demand could create nearly 95 million new jobs across all sectors.

Capturing this opportunity will require concerted effort by business and government leaders. The rewards are substantial. Rather than waiting a generation for incomes to rise and traditional banks to extend their reach, emerging economies have an opportunity to use mobile technologies to provide digital financial services for all, rapidly unlocking economic opportunity and accelerating social development.

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[1] In this report, we use the terms "developing countries" and "emerging economies" interchangeably, and we use "advanced economies" and "developed countries" interchangeably. We follow the IMF definition of developing countries. See technical appendix for the list of countries included.

Box E1. What is digital finance?

We define digital finance as financial services delivered over digital infrastructure—including mobile and internet—with low use of cash and traditional bank branches. Mobile phones, computers, or cards used over point-of-sale (POS) devices connect individuals and businesses to a digitized national payments infrastructure, enabling seamless transactions across all parties.

Our definition is intentionally broad, including:

- All types of financial services, such as payments, savings accounts, credit, insurance, and other financial products.
- All types of users, including individuals at all income levels, businesses of all sizes, and government entities at all levels.
- All types of providers of financial services, including banks, payment providers, other financial institutions, telecoms companies, financial technology (fintech) start-ups, retailers, and other businesses.

We also use a number of related, but slightly different, terms that are frequently used in policy discussions and other publications. By "digital wallets", we refer to a store of value that people can access using a mobile phone or a computer and that provides an easy way to make payments, ranging from person-to-person transfers to e-commerce transactions, to purchases at a store. A digital wallet may be linked to a traditional bank account. "Mobile money" refers to mechanisms allowing people to make payments using their mobile phones without having a traditional bank account. We use "digital financial inclusion" to mean providing people with digital financial services. This can be providing services to those who are currently unbanked as well as giving currently underserved individuals and businesses access to a wider and more appropriate set of digital finance products.

$3.7T OR 6%

could be added to developing world GDP in 2025 from widespread digital finance

FINANCIAL EXCLUSION AFFECTS THE MIDDLE CLASS, NOT ONLY THE POOR

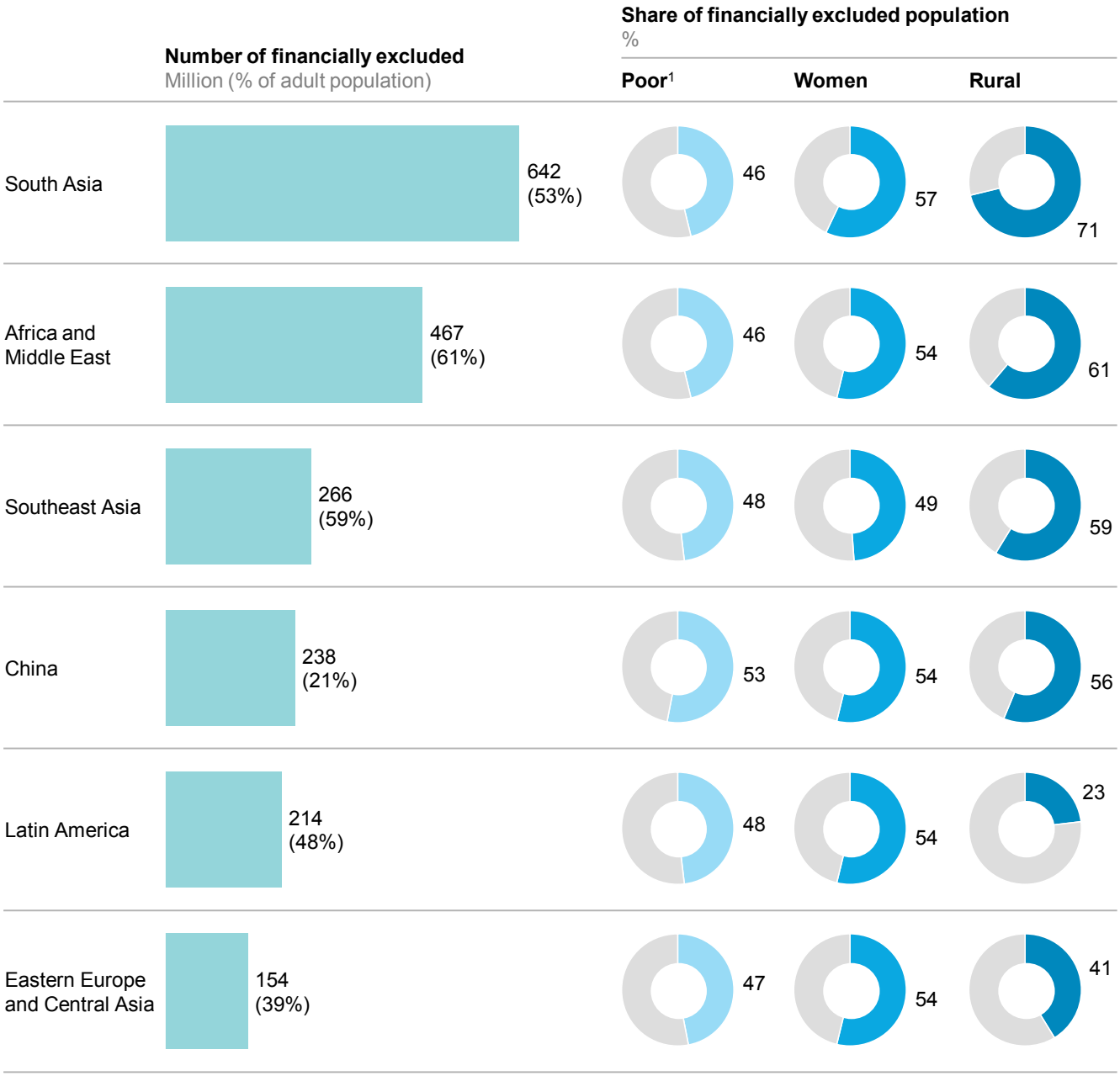
In emerging economies as a whole today, 45 percent of adults—or two billion individuals—do not have a financial account at a bank or another financial institution, or with a mobile-money service. The share is higher in Africa, the Middle East, Southeast Asia, and South Asia, and is particularly high among poor people, women, and those living in rural areas—but many middle class people are also affected (Exhibit E1). Even those people who do have basic financial accounts lack access to the broad range of financial services that those in developed countries take for granted, such as different types of savings accounts, loans, and insurance products.[2] As a result, the majority of people in emerging economies rely on informal financial solutions that are often less flexible and more expensive than formal alternatives—and frequently fail to deliver when needed the most. These include saving in the form of livestock, gold, or through informal savings groups, and borrowing from family, employers, or money lenders.

[2] Global Findex database 2014, World Bank, April 2015.

Exhibit E1

Who are the financially excluded?

Financially excluded population in emerging economies



1 Defined as the bottom two quintiles of each country's income distribution.

SOURCE: Global Findex database 2014, World Bank; McKinsey Global Institute analysis

Access to financial products is also a problem for businesses. At least 200 million micro, small, and medium-sized enterprises (MSMEs) in emerging economies have no or insufficient access to credit, blocking their growth. The gap between the amount of credit currently extended and what these businesses need is estimated to be $2.2 trillion (Exhibit E2). The problem is not limited to very small and informal businesses—medium-sized and small companies in the formal economy, which have the potential to be major job-creation and growth engines, account for about half of the gap.[3] Even when businesses can obtain credit, the collateral required tends to be double or triple that in advanced

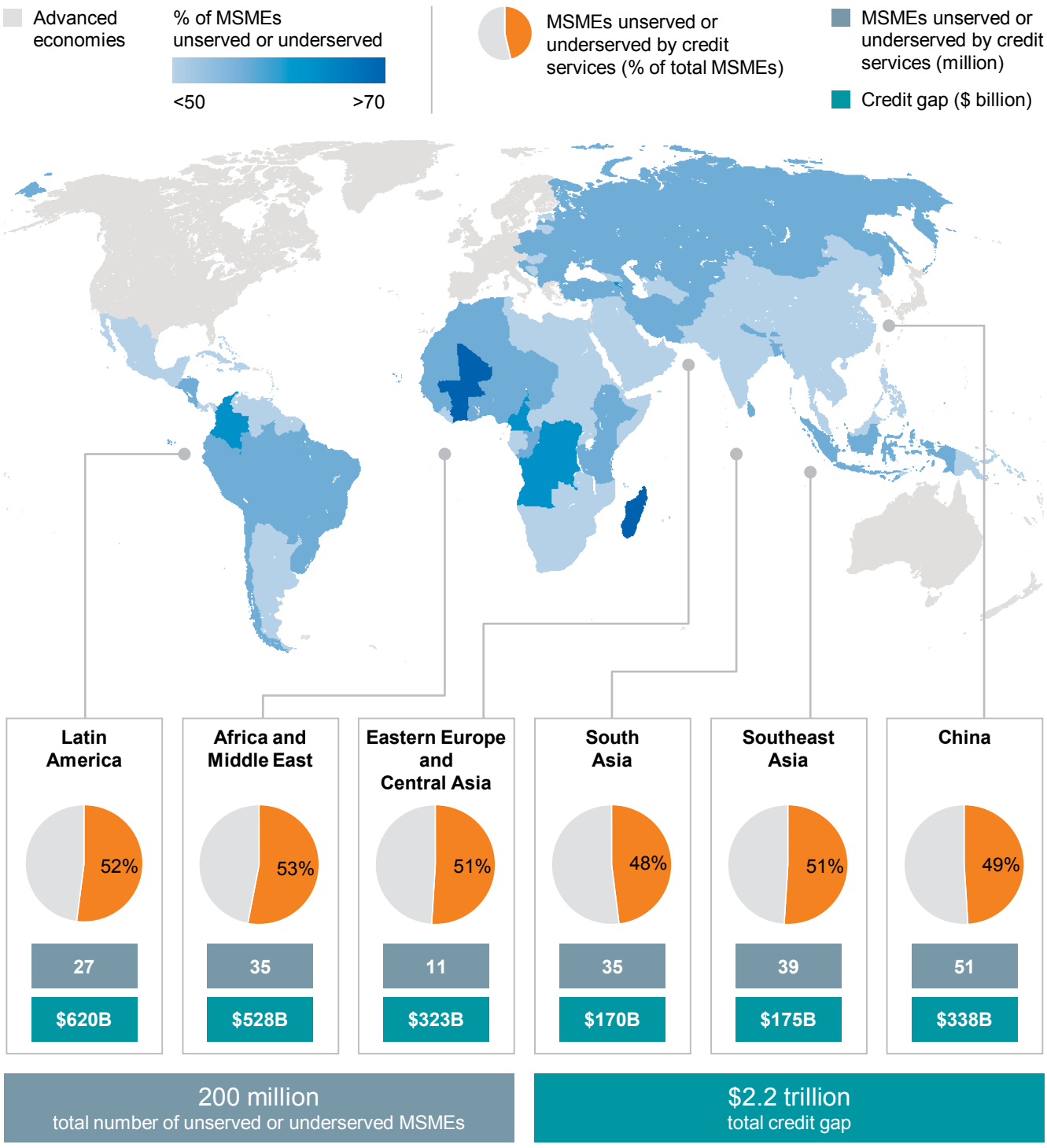
[3] IFC Enterprise Finance Gap database 2011,SME Finance Forum, 2013.

economies, and interest rates are many times higher, too.[4] MSMEs in emerging economies cite credit constraints as the biggest obstacle to their growth.[5]

Exhibit E2

Micro, small and medium-sized enterprises across developing regions cannot access the credit they need to grow

2013



SOURCE: SME Finance Forum; McKinsey Global Institute analysis

[4] Era Dabla-Norris at al., *Distinguishing constraints on financial inclusion and their impact on GDP, TFP, and inequality*, NBER working paper number 20821, January 2015.

[5] *Small and medium enterprise finance: New findings, trends and G-20/Global Partnership for Financial Inclusion progress*, Global Partnership for Financial Inclusion and International Finance Corporation, 2013.

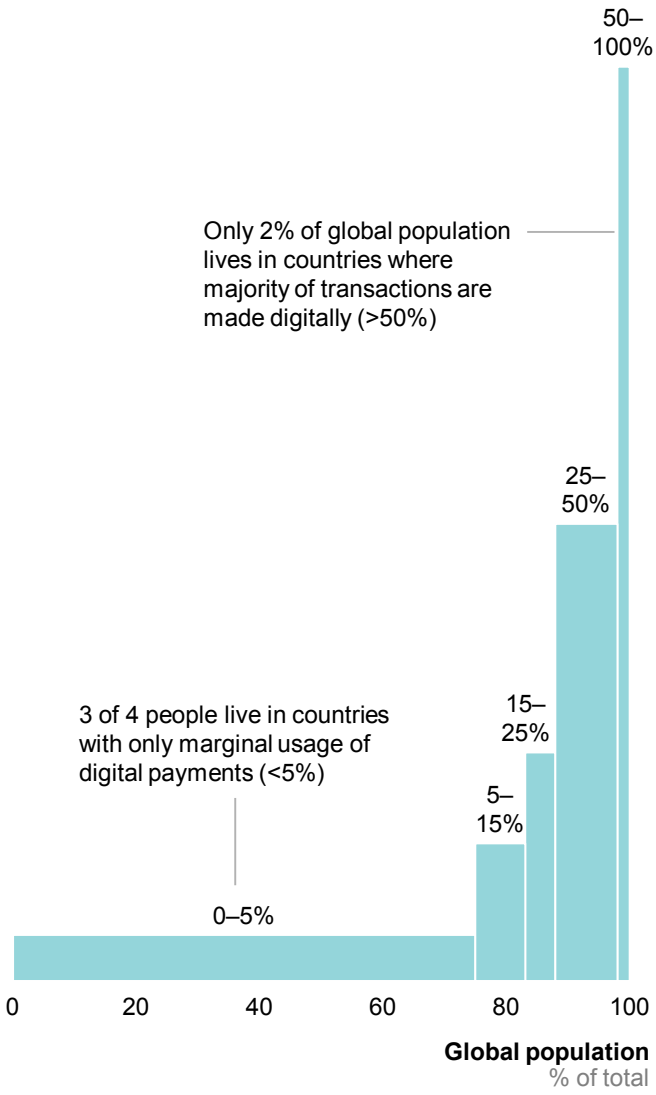
A heavy reliance on cash hinders financial institutions, too. Individuals and businesses of all sizes overwhelmingly use cash, which accounts for more than 90 percent of payment transactions by volume in emerging economies (Exhibit E3). For financial institutions, this creates significant costs and reduces the pool of customers that they can serve profitably. Reliance on cash also makes it difficult for financial-services providers to gather the information they need to assess the creditworthiness of potential borrowers, which further narrows the pool of customers they can serve.

Exhibit E3

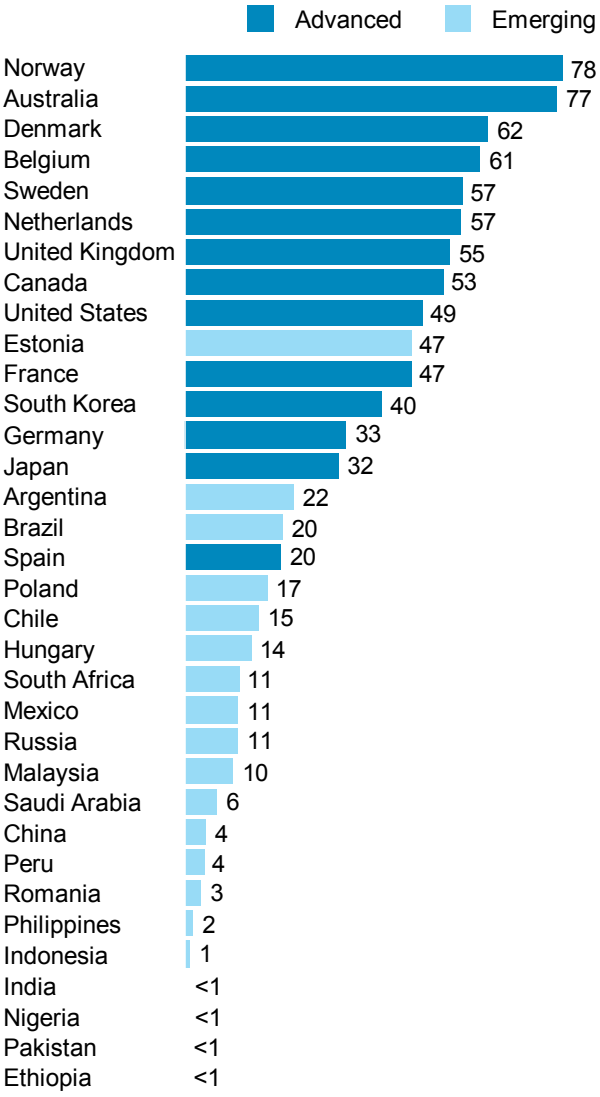
The vast majority of payments in emerging economies use cash, while digital payments are widely used in advanced economies

% of total transactions by volume, 2014

Share of digital payments—global aggregate



Share of digital payments—by country



SOURCE: McKinsey Global Payments Map; World Bank; McKinsey Global Institute analysis

For governments, the predominance of cash creates a leaky pipeline for expenditure and tax revenue and can enable corruption.[6] One study found that as much as one-third of government cash payments can be lost this way.[7] Social programs built on cash payments and subsidized goods such as fuel and food staples also limit governments' ability to target aid and subsidies effectively. The International Monetary Fund (IMF) estimates that 43 percent of the benefit of fuel subsidies worldwide goes to the wealthiest quintile and only 7 percent to the poorest quintile.[8] Finally, cash payments reinforce large informal economies that not only hinder competition but also deprive governments of precious tax revenue and can deter business investment.

DIGITAL TECHNOLOGIES ENABLE BROAD-BASED FINANCIAL INCLUSION

80–90%
lower cost from providing digital rather than physical accounts

Mobile and digital technologies, which are spreading around the world at extraordinary speed and with disruptive power, can change this situation. In emerging economies, the next frontier is finance.

For most people in these countries, the story begins in the palm of their hand, with a mobile phone. This can provide easy access to a digital wallet that could be used for all payment transactions, such as receiving remittances, wages, and government subsidies, making purchases at stores, or paying utility bills and school fees. Using a mobile phone rather than cash saves considerable travel time and cost, reduces the risk of theft, and boosts convenience. It also gives access to a broader range of financial services that can be delivered digitally, such as savings accounts or loans.

Mobile phones are becoming ubiquitous as networks increase coverage and quality. Mobile networks now reach more than 90 percent of people in emerging economies. Phone ownership still lags behind network coverage, but it too is growing rapidly. In 2014, nearly 80 percent of adults in emerging economies had mobile subscriptions, compared with 55 percent who had a financial account. Mobile phone ownership is projected to reach over 90 percent of adults by 2020.[9]

For financial-services providers, the cost of offering customers digital accounts can be 80 to 90 percent lower than using physical branches (Exhibit E4). This enables providers to serve many more customers profitably, with a broader set of products and lower prices. Over time, many individuals may begin to use their digital accounts to save money for the future.

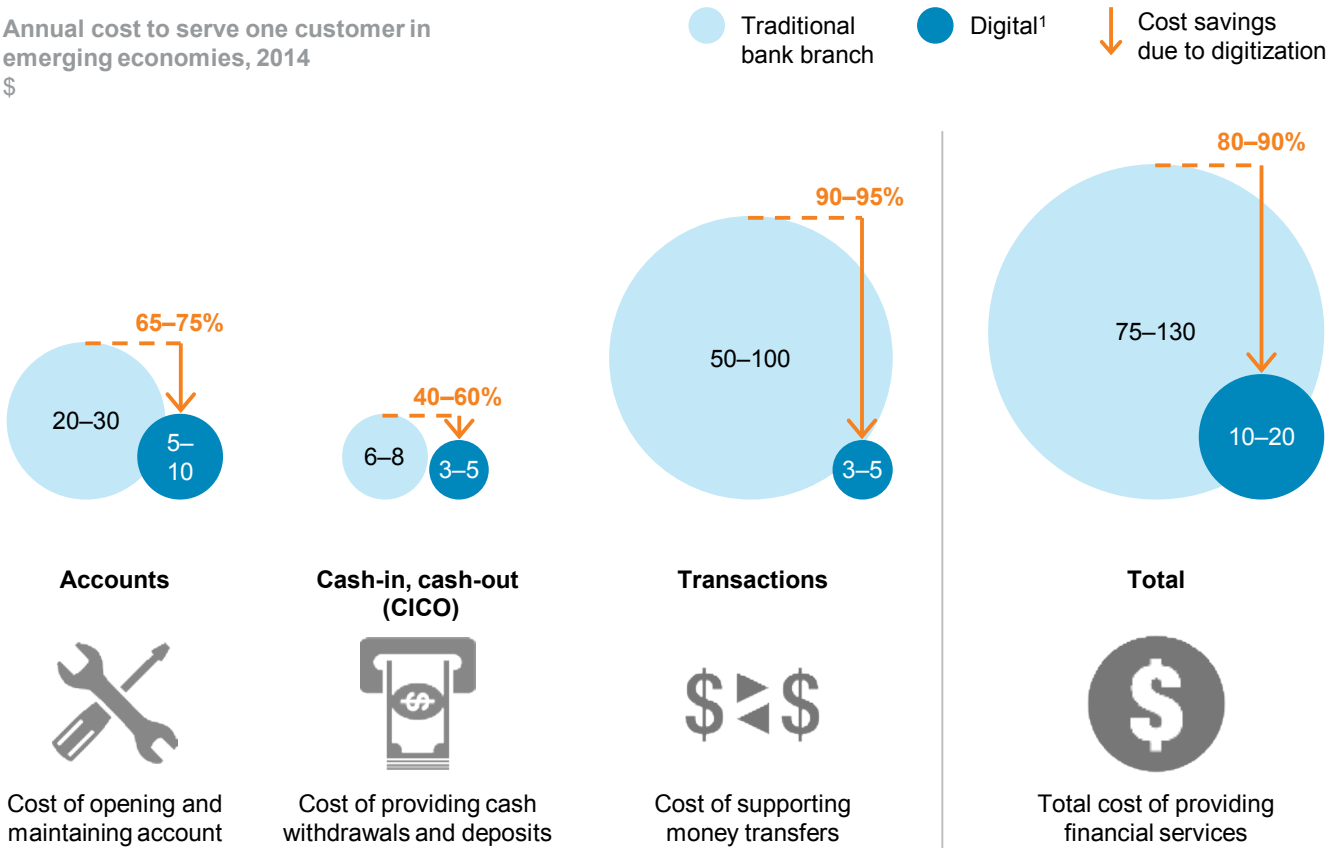
As individuals and businesses make digital payments, they create a data trail of their receipts and expenditures, that enables financial service providers to assess their credit risk. The information allows providers to underwrite loans and insurance policies for a larger set of borrowers with greater confidence. Providers can also collect digital repayments on an automated basis—and send text messages to prompt borrowers when they have missed a payment. Research in Bolivia, Peru and the Philippines has found that when providers use such SMS "nudges", household saving rates increase.[10] The full suite of savings, credit, and insurance products becomes cost-effective to provide even for people at low incomes and for very small businesses.

6 See Kenneth S. Rogoff, *The curse of cash*, Princeton University Press, 2016.
7 *From cash to digital transfers in India: The story so far*, Consultative Group to Assist the Poor, February 2015.
8 Arze del Granado, Javier, David Coady, and Robert Gillingham, *The unequal benefits of fuel subsidies: A review of evidence for developing countries*, IMF working paper number 10/202, September 2010.
9 GSMA Intelligence Database, 2016.
10 Dean Karlan et al., *Getting to the top of mind: How reminders increase saving*, NBER working paper number 16205.

As more individuals and businesses use digital payments and other digital products, the benefits to all users increase, creating network effects that can further accelerate adoption.[11] In Kenya, for example, the share of adults using the M-Pesa mobile-money system grew from zero to 40 percent within its first three years of launching in 2007—and by the end of 2015 stood at nearly 70 percent.[12] This rate of adoption is much faster than it is in the case of traditional financial accounts, which tends to increase in line with national income levels. Achieving a significant expansion of access to finance through brick-and-mortar branches could take a generation or more. In contrast, the use of mobile-money accounts shows no correlation with income; indeed, the example of Kenya shows that the highest penetration today is in some of the world's poorest countries.

Exhibit E4

Digital technologies cut the cost of providing financial services by 80 to 90 percent



1 To reach full cost savings, sufficient improvements are necessary in system design, scale, and operational efficiencies.

SOURCE: McKinsey Global Payments Map; Rodger Voorhies, Jason Lamb, and Megan Oxman, *Fighting poverty, profitably: Transforming the economics of payments to build sustainable, inclusive financial systems,* Bill and Melinda Gates Foundation, September 2013; McKinsey Global Institute analysis

[11] Rodger Voorhies, Jason Lamb, and Megan Oxman, *Fighting poverty, profitably: Transforming the economics of payments to build sustainable, inclusive financial systems*, Bill and Melinda Gates Foundation, September 2013.

[12] Ignacio Mas and Dan Radcliffe, "Mobile payments go viral: M-Pesa in Kenya," *Journal of Financial Transformation*, volume 32, 2011.

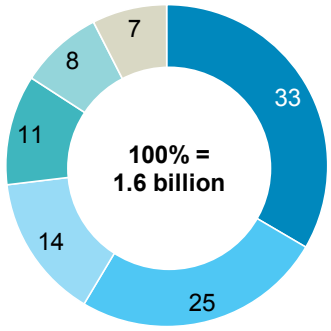
DIGITAL FINANCE COULD BOOST THE GDP OF EMERGING ECONOMIES BY $3.7 TRILLION BY 2025 AND BENEFIT NUMEROUS STAKEHOLDERS

Our research takes a comprehensive approach to quantifying the potential economic and social benefits of digital finance. Individuals, businesses, financial-services providers, and governments all stand to gain. Collectively, the benefits can significantly boost GDP and job creation (Exhibit E5).

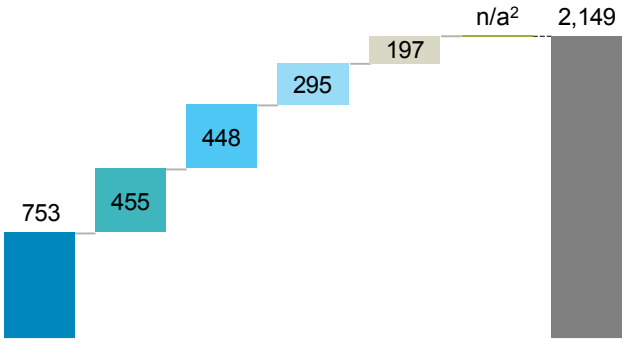
Exhibit E5

Many stakeholders stand to gain from digital financial services

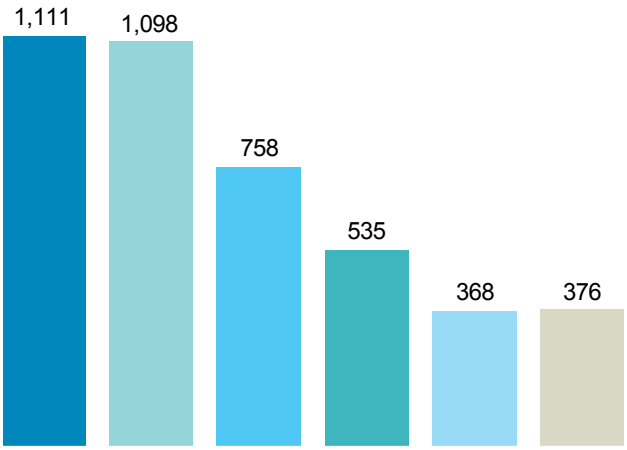
Individuals — **1.6 billion**
Newly included in financial system
%



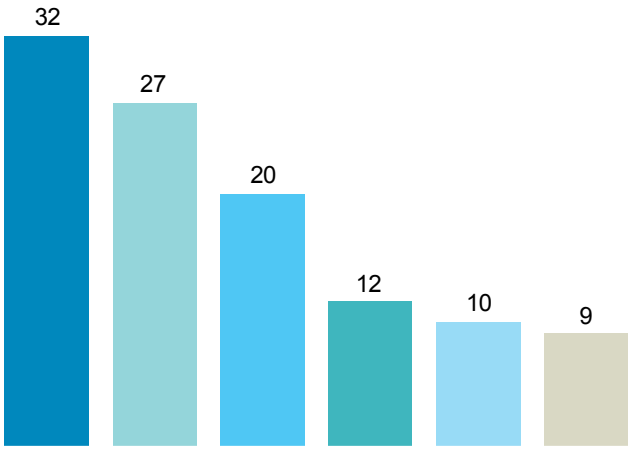
MSMEs and individuals — **2.1 trillion**
New credit
$ billion



Financial-service providers — **4.2 trillion**
New deposits
$ billion



Government — **110 billion**
Leakage reduction per annum
$ billion



1 Stakeholder benefits are calculated using 2014 baseline values.
2 New credit in China has not been forecasted as current debt levels in the country are already very high.
NOTE: Not to scale. Numbers may not sum due to rounding.

SOURCE: McKinsey Global Institute analysis

- **Individuals.** Digital finance could give 1.6 billion individuals access to a financial account for the first time, 45 percent of whom would come from the poorest two quintiles of the income distribution. More than half of the total—880 million—would be women. Previous research has found that when women have financial accounts, they tend to spend more than men on food, education, and health care, increasing the welfare and productivity of their family.[13] For all individuals, convenience, cost, and the range of financial products available would dramatically improve. People in towns and cities would no longer have to spend valuable business hours in line at a bank; rural households could forgo trips to nearby towns and spend more time on income-generating activities. One study, in rural Niger, showed that payments made via digital means saved an average of one-hour travel time and more than three hours of waiting time per transfer.[14] Across society, people could improve their management of income and expenses, save for big-ticket items like durable goods, invest in their farms and businesses, and put money aside for unexpected economic shocks. In Malawi, farmers whose income from crop sales was deposited directly into accounts spent 13 percent more on inputs for their future crops and achieved a 21 percent average increase in yields from the following year's harvest in comparison to farmers who received payment in cash.[15] Digital finance can help to reduce poverty and hunger, raise gender equality, and improve access to education and health care.

- **Businesses.** Digital payments create an electronic record of sales and expenses, enabling businesses to improve their tracking and analysis of cash flow, streamline management of suppliers, and enhance their understanding of operations and customers. One example is iZettle, a payment processor operating in Brazil, Mexico, and 11 other countries. Through a smartphone app, it enables small businesses to process digital payments, track and evaluate their sales data, and monitor profitability, raising their productivity and profitability. Digital records for revenue and expenditure also enable businesses to demonstrate their credit quality to lenders. Combined with the deposits gathered from newly included individuals, we calculate that digital finance could unlock an additional $2.1 trillion of loans to individuals and MSMEs, helping productive but credit-constrained businesses expand operations and invest in new technologies.

- **Financial-services providers.** Digital finance offers significant benefits—and a huge new business opportunity—to providers. By improving efficiency, the shift to digital payments from cash could save them $400 billion annually in direct costs. As more people obtain access to accounts and shift their savings from informal mechanisms, as much as $4.2 trillion in new deposits could flow into the financial system—funds that could then be loaned out. To unleash the full range and potential of new forms of digital finance, however, a much wider variety of players than banks will likely be involved. These may include telecoms companies, payment providers, financial technology startups, microfinance institutions (MFIs), retailers and other companies, and even handset manufacturers.

- **Governments.** Governments in emerging economies could collectively save at least $110 billion annually as digital payments reduce leakage in public expenditure and tax revenue. Of this, about $70 billion would come from ensuring that government spending reaches its target. This effectively would increase public investment in critical areas such as education, infrastructure, and health care. In addition, governments could gain approximately $40 billion annually from ensuring that tax revenue that is

[13] Mattias Doepke and Michele Tertilt, *Does female empowerment promote economic development?* Centre for Economic Policy Research, discussion paper number 8441, June 2011.

[14] Jenny C. Aker et al., *Payment mechanisms and anti-poverty programs: Evidence from a mobile money cash transfer experiment in Niger*, CDG working paper number 268, July 2015.

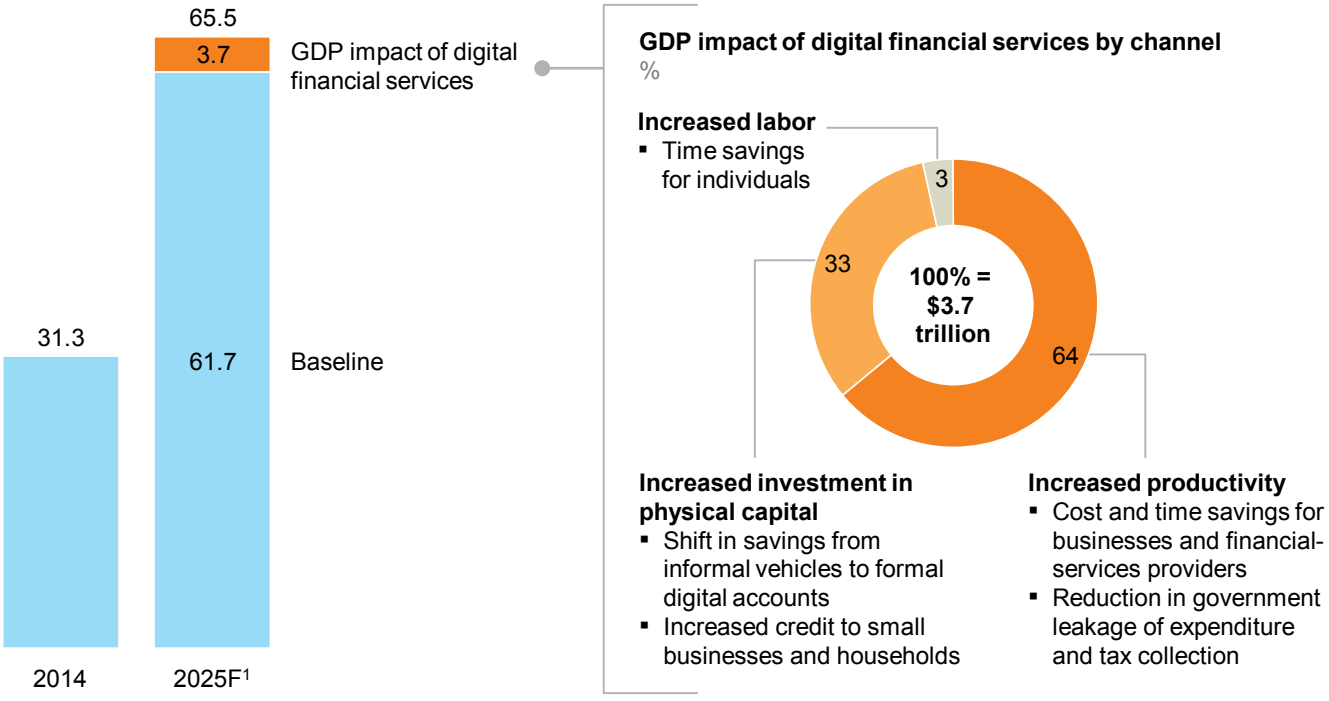
[15] Lasse Brune et al., *Facilitating savings for agriculture: Field experimental evidence from Malawi*, NBER working paper number 20946, February 2015.

collected makes its way into government coffers, money that could be used to fund other priorities.[16] Governments could also enjoy other benefits that we did not quantify. Digital payments could further enhance revenue by reducing the size of the informal economy where businesses do not register, pay taxes, or comply with product- and labor-market regulations. Digital operations within government can create large efficiency improvements and therefore cost savings. Shifting social programs from cash to digital payments can also improve outcomes through better targeting of recipients.

To calculate the impact on GDP, we use McKinsey's proprietary general equilibrium macroeconomic model. We find that digital finance could raise the level of GDP of emerging economies by a total of 6 percent, or $3.7 trillion, by 2025 (Exhibit E6). Achieving this would require all emerging economies to meet two ambitious, but achievable, goals, based on the historical experience of some advanced economies. First, they would need to increase digital payments over the next ten years at the same rate that the top quartile of developed countries achieved over the long term. Depending on where a country starts, this means that digital payments would grow to between 25 and 50 percent of total transactions by volume. Reaching this goal would put emerging economies well within reach of the second goal: ensuring that at least 91 percent of adults gain access to financial services, the average of high-income countries.

Exhibit E6

Digital financial services could boost the GDP of emerging economies by $3.7 trillion—or 6 percent above baseline projected GDP



1 Based on average GDP growth forecast of emerging countries from IHS and Oxford Economics.
NOTE: Numbers may not sum due to rounding.

SOURCE: IHS; Oxford Economics; McKinsey Global Institute analysis

[16] This analysis is based only on current tax receipts that are lost to corruption. It does not consider the additional taxes that could be collected by reducing tax evasion in the informal economy, although that impact could also be very large if digital payments were combined with increased tax enforcement.

Nearly two-thirds of the additional GDP would likely come from improved productivity enabled by digital payments. Businesses, financial-services providers, and government organizations all reap large efficiency gains in the shift from cash to digital payments and from paper to electronic record keeping. This results in less time spent performing manual processes and traveling to and from bank branches. Governments obtain further productivity gains by reducing leakage in their spending and tax collection. One-third of the GDP estimate would come from increased investment as individuals and businesses are brought into the formal financial system, shifting informal savings into digital accounts and unlocking more credit that can be used for investment in businesses and durable goods. The remainder of the GDP impact would come from individual time savings that enable additional hours of work.

The potential impact on GDP for each country depends on its starting point. Lower-income countries such as Ethiopia, India, and Nigeria have the largest potential, given their low levels of financial inclusion and digital payments today (Exhibit E7). Pakistan currently has a less developed financial system requiring greater upfront investment, and thus would not have as large an increase in productivity as some of its lower-income peers. Middle-income countries such as Brazil, China, and Mexico can potentially boost GDP by more modest—but still substantial—amounts, reflecting their higher levels of financial inclusion and digital payments. China, at 4.2 percent, has the lowest additional GDP potential of our seven countries because its debt levels are relatively high today and it has less room to grow credit further in a sustainable manner.[17]

Based on the historical relationship between GDP growth and job creation, we calculate that the additional GDP gains from digital finance would expand aggregate demand and create nearly 95 million new jobs across sectors, a 3.5 percent increase from current levels. Two-thirds of these new jobs are likely to be full-time salaried or wage-paying positions that are in short supply in the developing world.

The economic gains from digital finance are likely to be far larger than the estimates we provide here, because we have not attempted to quantify the impact of many important dynamics. One is the potential impact on growth from raising the quality of human capital in the economy. As more women gain access to financial accounts, they have been shown to spend more on nutrition, education and health care. In addition, regularly paying wages of teachers and health-care workers digitally reduces absenteeism. In India, for example, one study found that attendance rate of teachers is 90 percent in states with reliable digital salary payments, but only 60 to 80 percent in other states.[18] Fewer missed days of work improves the quality of education and health care, enhancing human capital. Second, digital payments can help governments improve targeting of services and subsidies to the poor, and therefore better meet social needs. Third, digital payments create transparency about who is evading taxes. If accompanied by stronger government enforcement efforts, this can reduce the size of the informal economy and boost overall productivity. Fourth, digital payments have already shown their potential to unlock a wide range of new business models in finance and beyond, including e-commerce and on-demand services. Taken as a whole, digital finance can accelerate progress toward meeting many of the UN's Sustainable Development Goals, leading to important societal benefits.[19]

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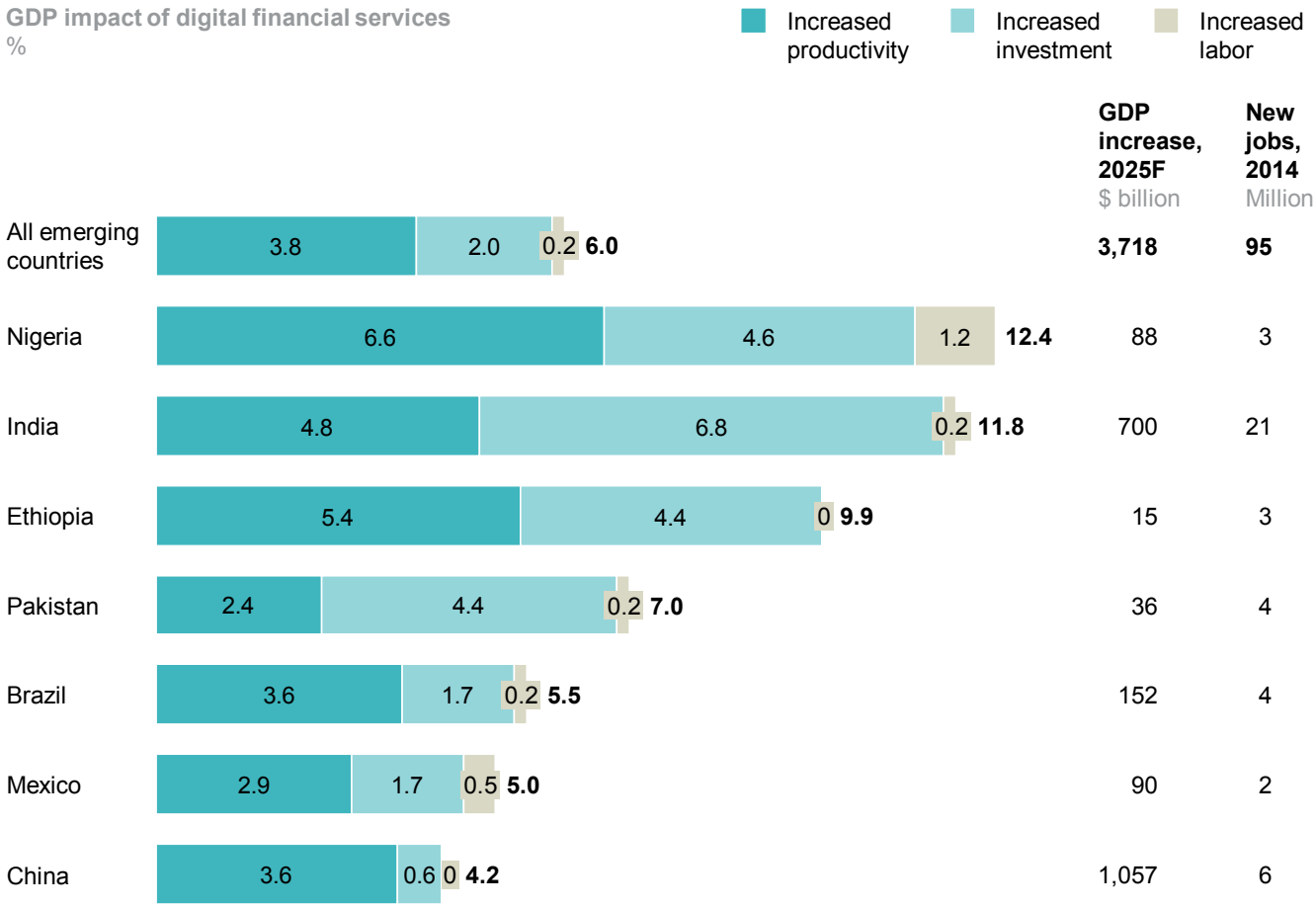
17 *Debt and (not much) deleveraging*, McKinsey Global Institute, February 2015.

18 *Inclusive growth and financial security: The benefits of e-payments to Indian society*, McKinsey & Company, October 2010.

19 For example, one of the Sustainable Development Goals is reducing hunger. Digital finance contributes to this goal by giving farmers financial tools to cope with income variations and smooth consumption between harvests. Another example is the climate change and clean energy goal. Digital payments make it possible for households to use pay-as-you-go methods for solar panels and other clean technologies.

Exhibit E7

GDP impact of digital financial services varies significantly across the seven focus countries



NOTE: Numbers may not sum due to rounding.

SOURCE: McKinsey Global Institute analysis

THREE BUILDING BLOCKS ARE ESSENTIAL FOR CAPTURING THE BENEFITS OF DIGITAL FINANCE

To capture the potential value of digital finance, three building blocks need to be in place: widespread digital infrastructure, dynamic and sustainable financial-services markets, and products that people prefer to existing, often informal, alternatives. Addressing all three can enable broad—and rapid—adoption of digital finance by the majority of individuals and businesses in emerging economies.

Building a robust and broad digital infrastructure

The infrastructure needed to provide digital finance can either piggyback on existing stock or can be implemented at less cost and more quickly than other types of infrastructure, such as power or transportation. Three primary components are vital.

First is the establishment of widespread mobile connectivity and ownership. To open up broad access to a wide range of financial services, everyone—rich and poor—must own a mobile phone and have access to affordable data plans. Across emerging economies, network coverage, phone subscriptions, and smartphone ownership are either already high or growing fast. However governments, non-governmental organizations (NGOs), and the private sector may need to intervene in rural areas and other "edges" of the network where markets are not delivering due to low returns.

90%
teacher attendance in Indian states with reliable digital salary payments
vs.
60–80%
in other states

A national digital-payment infrastructure is the second essential element. A robust payments "backbone" should support safe, low-cost transactions between any two parties while accommodating innovation by providers. This must be supported by wide networks of cash-in, cash-out (CICO) points—often simple agent networks—to allow people access to cash when they need it, and by a broad set of merchants and businesses that accept digital payments. Most emerging economies lag behind advanced economies in their payment systems infrastructure, although some are taking the lead. For example, Jordan and Peru are leading the way in building payments architecture that is faster and less costly than many payment systems in advanced economies today.[20]

The third necessary component is the existence of a well-disseminated personal ID system. Individuals need some form of ID that financial-services providers can easily verify. Yet one in five individuals in emerging economies remains unregistered, compared with one in ten in advanced economies. IDs need to have easily fulfilled application requirements, a far-reaching physical registration network, and low prices for registration and issuance. National digital IDs with chips or biometric identification, such as those in India or Estonia, are one way to close this gap. Voter ID cards, passports, and driver licenses are other options.

1 IN 5
people in emerging economies unregistered vs.
1 IN 10
in advanced economies

Ensuring dynamic and sustainable financial-services markets

Once a digital infrastructure is in place, it needs to be supported by a sustainable business environment that includes banks and other financial institutions, and also telecoms companies, handset manufacturers, fintech companies, and other businesses such as retailers.

One requirement is risk-proportionate financial-services regulation. Financial regulation needs to strike a careful balance between protecting investors, consumers, and governments; avoiding costly and disruptive banking crises; and giving financial-services providers space to innovate and compete. Prudential regulation should ensure that providers remain healthy and hold enough capital to avoid losses from over-exuberant lending or operational issues such as fraud, cyber risk, and other systemic information technology (IT) failures. Protection of consumers is also needed, particularly those who are most vulnerable and least economically valuable to the provider. Regulation should also support other financial or policy aims—anti-money laundering is an example—by using risk-proportionate measures such as tiered know-your-customer (KYC) stipulations.[21]

Beyond issues of regulation, countries also need to create an environment that is conducive to competition and encourages providers to offer a broad range of new products and financial services. Among the elements needed to stimulate innovation are a competitive market structure, business-friendly regulation for new entrants, financial markets open to foreign investment and talent, and financial capital available for innovation. In some countries, incumbents may seek to shut out new players or tilt the playing field to their own advantage.

Offering financial products people prefer to existing alternatives

People will adopt digital financial services only if they prefer them to existing alternatives, or have incentives to do so. Today, individuals and small businesses use cash and a variety of informal financial arrangements for good reason, and these mechanisms sometimes play a cultural and social role in addition to a financial one. For instance, purchases of gold in India may be a cultural preference, while rotating savings clubs in Nigeria have an important social component. New digital products need to offer true advantage on cost and utility for people

[20] *The Level One project guide: Designing a new system for financial inclusion*, Bill and Melinda Gates Foundation, April 2015.

[21] David S. Evans and Alexis Pirchio, *An empirical examination of why mobile money schemes ignite in some developing countries but flounder in most*, University of Chicago Coase-Sandor Institute for Law and Economics Research, paper number 723, March 2015.

to use them. This will require smart product design and may require well-tuned incentives. Strong, trusted brands should be encouraged to launch affordable, easy-to-use products that are significantly more attractive than current options and require minimal behavioral change by customers. Governments may need to step in with incentives or other measures to promote adoption in the early stages of market development.

While this point may seem obvious, it is a common area of failure in developing and developed markets alike. For example, Pakistan has solid digital infrastructure and financial regulation in place and has even had some success in digital domestic-remittance payments. Nonetheless, the uptake and use of mobile-money accounts is by little more than 1 percent of the adult population; although it is easy to open a digital wallet, people seem to prefer using cash and standard remittance services. In such cases, governments may be able to help by identifying market failures and working with providers to create incentives to use new digital finance products. For example, they might transfer social subsidies and other government payments to individuals digitally, a strategy India is pursuing.

375K
homes in East Africa have solar electricity using mobile money

THE NEXT HORIZON: DIGITAL FINANCE UNLOCKS NEW BUSINESS MODELS

In the long term, the benefits of digital finance go far beyond expanding access, driving down costs, and increasing the convenience of transactions. Like electricity or roads, a digital-payment network is part of the basic infrastructure of an economy that enables individuals and businesses to transact with one another seamlessly. It also can underpin a broader and more innovative array of business activities. Assessing the full range of new business models that could emerge is beyond the scope of this research. But at least three types of new business innovations are already apparent and could further transform the lives of individuals in, and economic prospects of, emerging economies.

First, the increased transparency and information about users generated by digital payments can spawn new types of financial services. New credit-scoring models that assess user data can help lenders assess the credit risk of a broader set of customers. Peer-to-peer (P2P) lending platforms can also emerge. Kubo.financiero in Mexico matches middle class and wealthier savers with small businesses and households looking for credit. Borrowers submit requests that are automatically risk-assessed along with their profiles, and lenders can select the borrowers they want to fund. Text messages prompt borrowers when they miss a payment, and delinquency rates have been lower than at MFIs to date—providing lenders with double-digit returns. Other new apps and digital tools can help businesses analyze their digital sales to improve operations and gain access to cash-advance facilities.

Second, digital payments allow people to transact in small amounts. This creates new business opportunities based on so-called micro-payments. Examples already in existence include pay-as-you-go solar power for households, irrigation systems purchased on layaway plans, and school tuition fees broken into small, frequent payments. In Kenya, M-Kopa Solar utilizes a pay-as-you-go model with payment made over the M-Pesa mobile-money platform; through this, 375,000 homes across East Africa now have solar electricity, and they will save an estimated $280 million over the next four years on their utility bills.

Over the longer term, digital payments can enable development of e-commerce and on-demand services. Today, most e-commerce in emerging economies relies on cash payment on delivery. But digital payments can unleash more rapid growth, given their greater convenience. In turn, e-commerce can unlock consumer spending, particularly in areas where retail options are limited.[22] On-demand services can enable individuals to tap directly into the labor market to find out where their services are most valued: services

[22] *China's e-tail revolution: Online shopping as a catalyst for growth*, McKinsey Global Institute, March 2013.

including everything from driving taxis to day labor to specialized work in technology.[23] As the global digital economy grows rapidly, digital payments provide a more convenient, low-cost way for individuals and businesses to take advantage of new opportunities. The spur to innovation that digital finance can give is one argument among many for adopting it, and its rapid adoption. Examples are mounting of the countries that have benefited from harnessing digital finance. As a developmental tool, it seems indispensable, a means to securing many ends from reducing poverty and hunger, to improving health, creating good jobs and inclusive economic growth, and reducing inequalities. Digital finance is not a miracle cure for all the world's ills, but it is within reach, and available now to emerging economies willing and ready to seize its many benefits.

•••

Economic development is usually a long journey, but digital finance solutions can radically speed the progress, and at a relatively affordable cost. Imagine the person in a rural area winning back the time spent traveling many miles on foot or by bus to a cash agent, and being able to work instead. Think of how many more small businesses might expand if they had access to credit. Picture the smallholder farmers who can finally get loans to buy the seeds, fertilizer, and farming tools needed to improve crop yields and boost incomes. And imagine, too, the enormous new business opportunities for banks, telecoms companies, fintech players, retailers, or any company that harnesses the low costs of transacting digitally to serve a much broader customer base of individuals and businesses profitably. Digitizing finance will be a multiyear effort for many countries but the sooner they start, the faster the rewards will come, in the form of higher growth, greater innovation, and more inclusion. The good news is that the digital infrastructure needed already exists and is being further improved. Billions of people across emerging economies possess the mobile handset that can connect directly into the national payments system. They are just waiting for governments and businesses to wire up the infrastructure and create the products they need.

[23] *A labor market that works: Connecting talent with opportunity in a digital age*, McKinsey Global Institute, June 2015.

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